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NATIONAL TELECOMMUNICATIONS COOPERATIVE ASSOCIATION

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March 19, 2012

Ex Parte **Notice**

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

***Connect America Fund*, WC Docket No. 10-90; *A National Broadband Plan for Our Future*, GN Docket No. 09-51; *Establishing Just and Reasonable Rates for Local Exchange Carriers*, WC Docket No. 07-135; *High-Cost Universal Service Support*, WC Docket No. 05-337; *Developing an Unified Intercarrier Compensation Regime*, CC Docket No. 01-92; *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45; *Lifeline and Link-Up*, WC Docket No. 03-109**

Dear Ms. Dortch:

Please find attached a copy of a letter sent today by the National Telecommunications Cooperative Association, the National Exchange Carrier Association, the Organization for the Promotion and Advancement of Small Telecommunications Companies, and the Western Telecommunications Alliance to Sharon Gillett, Chief of the Wireline Competition Bureau.

Pursuant to Section 1.1206 of the Commission's rules, a copy of the letter to Ms. Gillett is being filed via ECFS with your office. If you have any questions, please do not hesitate to contact me at (703) 351-2016 or mromano@ntca.org.

Sincerely,

/s/ Michael R. Romano
Michael R. Romano

Senior Vice President - Policy

Enclosure

cc: Sharon Gillett

March 19, 2012

Sharon Gillett,
Chief, Wireline Competition Bureau
Federal Communications Commission
445 12th Street, SW
Washington, D.C. 20554

Re: Connect America Fund, WC Docket No. 10-90; A National Broadband Plan for our Future, GN Docket No. 09-51; Establishing Just and Reasonable Rates for Local Exchange Carriers, WC Docket No. 07-135; High-Cost Universal Service Support, WC Docket No. 05-337; Developing a Unified Intercarrier Compensation Regime, CC Docket No. 01-92; Federal-State Joint Board on Universal Service, CC Docket No. 96-45; Lifeline and Link-Up, WC Docket No. 03-109.

Dear Ms. Gillett:

On February 21, 2012, the Wireline Competition Bureau (the "Bureau") took the unusual step of seeking review by other offices and bureaus within the Commission of the regression analysis methodology that would underlie the expense caps adopted by the Commission in its *USF/ICC Transformation Order.*[1]

The results of these Commission "peer reviews," made public on March 9, 2012,[2] confirm what the Rural Associations and numerous other parties have extensively documented elsewhere in the record – the proposed regression formulas cannot lawfully be implemented as contemplated by the *Order*. Comments by Paroma Sanyal, an economist in the Commission's Office of Strategic Planning & Policy Analysis, and by Tracy Waldon, Chief Economist of the Media Bureau, make clear *at a minimum* that the regression analysis needs significant further work.[3] In reality,

[1] *Connect America Fund*, WC Docket No. 10-90, *A National Broadband Plan for Our Future*, GN Docket No. 09-51, *Establishing Just and Reasonable Rates for Local Exchange Carriers*, WC Docket No. 07-135, *High-Cost Universal Service Support*, WC Docket No. 05-337, *Developing an Unified Intercarrier Compensation Regime*, CC Docket No. 01-92, *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, *Lifeline and Link-Up*, WC Docket No. 03-109, *Universal Service – Mobility Fund*, WT Docket No. 10-208, Report and Order and Further Notice of Proposed Rulemaking, FCC 11-161 (rel. Nov. 18, 2011) (*ICC/USF Transformation Order* or *Order*).

[2] Letter from Patrick Halley, Wireline Competition Bureau, FCC, to Marlene Dortch, FCC, WC Docket No. 10-90, *et al.* (filed Mar. 9, 2012) (*WCB Letter*).

[3] *Id.*, Apps. B and C.

however, flaws in the models are so serious the formulas cannot simply be "fixed" under delegated authority by the Bureau. The Commission should accordingly suspend implementation of its quantile regression formulas and consider other alternatives, in particular the limitation on capital expenditures submitted as part of the RLEC Plan.[4] At a minimum, the Commission and the Bureau must publish a revised proposal for such caps in light of the current record (including the peer reviews) and then provide reasonable opportunity for meaningful analysis and further comment *prior to* adoption and implementation.

Threshold Questions Still Must be Addressed Before Regression Models are Used to Implement Expense Caps

At the outset, the Rural Associations appreciate the Bureau's attempts to engage in more careful review of the caps, as it is essential to safeguard the formulation of public policy and rules from influence of incorrect technical analyses or questionable methodologies. But it must be recognized what was actually reviewed in this instance, and what was not reviewed. The peer reviewers generally assessed whether quantile models were a good choice as compared to other types of statistical models, whether the independent variables were sufficient to support effective estimates by the models, whether interactions between dependent variables have been adequately addressed, whether the percentile limit was suitably chosen, and whether the text explaining choices was sufficient.

But all of the peer reviewers' observations are premised on prior decisions that a particular statistical model should be used (even before that model had been publicly vetted), and that the data used to develop and apply the models are accurately reported. These, of course, are the threshold questions extensively reviewed in the Rural Associations' Initial Comments and Reply, and these questions still need resolution before any further action on model development or implementation could be purposeful.[5]

For example, the question of whether quantile regression models may be better at "estimating the upper bound of a data scatter plot" than other statistical methods such as ordinary least squares (OLS) regression is not nearly as significant as whether it makes *any sense at all* in light of this record to use regression formulas to limit high cost loop support (HCLS) payments to rate-of-return companies.[6] Neither peer reviewer questions whether the fact a given company's expenditures place it in the 90th percentile nationwide has any relationship to whether those

[4] Comments of NECA, NTCA, OPASTCO, and WTA, WC Docket No. 10-90, *et al.*, App. A (filed Apr. 18, 2011).

[5] It appears the peer review process may have focused on steps intended to help salvage the Bureau's statistical models proposed in Appendix H of the *Order*, without examining more fundamental questions that should have been addressed prior to the adoption of such caps and the Commission's determination to use the specific methodology suggested by Appendix H. In this light the peer review reinforces the perils of adopting an open-ended rule before "filling in the blanks" on how that rule will apply.

[6] *WCB Letter* at 8.

expenditures are necessarily excessive or inefficiently incurred.[7] Without empirical justification for this assumption, it is doubtful the Commission will ever be able to defend its use of statistical models regardless of their accuracy in identifying highest-cost companies.[8]

The Peer Reviews Only Reinforce Many of the Concerns Already Highlighted in the Record

Even after adjusting for the limited scope of the peer review process in this instance, comments by both Ms. Sanyal and Mr. Waldon make clear that the models have serious technical flaws. According to Ms. Sanyal, for example, one "major" concern – also identified by the Rural Associations, as well as by Dr. Roger Koenker, on whose work the Commission based its proposal – is the way the models disaggregate the total cost function into separate elements. Ms. Sanyal confirms this approach is fundamentally wrong. Among other things, despite the purported purpose of the caps, this approach provides no guarantee that total costs will be capped below the 90th percentile, and "may miss some high cost carriers, or mislabel others as high cost."[9] The Rural Associations extensively documented this problem as well.[10]

Ms. Sanyal also points out another flaw discussed at length in the Rural Associations' comments and elsewhere on the record.[11] That is, the models' approach to individual cost capping "ignores any complementary or substitutability between the various cost components."[12] Ms. Sanyal correctly notes that this approach may "discourage a company from overall cost-minimization if that means after minimization, one of the cost categories will fall above the 90th percentile threshold, even though total costs are lower." Ms. Sanyal goes on to explain, as did the Rural Associations, that each carrier may face different tradeoffs amongst its cost components, and

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[7] *See* Initial Comments of NECA, NTCA, OPASTCO, and WTA, WC Docket No. 10-90, *et al.*, at 66-67; Apps. D and E (filed Jan. 18, 2012) (*Comments of Rural Associations*).

[8] Even here, the Commission's peer reviewers express some differences of opinion. Whereas Ms. Sanyal seems to feel that "in this particular case" quantile regression is an improvement over OLS, Mr. Waldon suggests that the reasoning presented in Appendix H is "unconvincing." *WCB Letter* at 8, 12. Mr. Waldon states in this regard that the Commission's concerns regarding heteroskedasticity and non-normal errors are "exaggerated." Nevertheless, for other reasons, Mr. Waldon eventually agrees that direct estimation via quantile regression "is the preferred method." *Id*. at 13.

[9] *Id.* at 9.

[10] The Rural Associations also pointed out that the use of multiple models to limit support actually imposes far more restrictive limits on expenditures than the Commission may have intended by its selection of a 90th percentile limit. Reply Comments of NECA, NTCA, OPASTCO, and WTA, WC Docket No. 10-90, *et al.*, at 27; App. B at 5 (filed Feb. 17, 2012) (*Reply Comments of Rural Associations*).

[11] *WCB Letter* at 8 - 9.

[12] *Id.* at 9.

that, if such caps could be justified at all, it would make obvious sense to estimate the 90th percentile over the total costs instead.[13]

Another point made in the Rural Associations' comments and echoed by both Ms. Sanyal and Mr. Waldon is that the Order fails to explain why the Commission chose to cap some cost categories but not others.[14] Ms. Sanyal here suggests what many parties strongly argued in comments – that is, the models may suffer from "omitted variable bias" because several important factors that may explain loop costs have not been included in the regression.[15] Ms. Sanyal mentions, as did many commenters, the percentage of bedrock in the construction area, soil types, and the presence of roads and streams as factors that may justify higher expenditures, yet are not accounted for in the models.[16] Further echoing the comments, Ms. Sanyal also suggests the Commission needs to consider additional potential variables, such as loop length or subscribers per loop mile.[17] Mr. Waldon likewise points out that Appendix H "does not make a convincing argument that the existing explanatory variables are sufficient to adequately determine similarly situated study areas" and suggests that a more convincing presentation would examine each cost category and the factors that actually drive those costs.[18]

Both Ms. Sanyal and Mr. Waldon question the models' technical specifications, including the choice of a log-log specification versus other types of specifications and the treatment of zero variables when taking logs of dependent and independent variables – a point also raised by Prof. Koenker in his statement.[19] Here, the Commission's peer reviewers touch on, but do not fully address, a key point made earlier in the record. The proposed quantile regression models are

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[13] *Id.* Of course, merely basing the quantile model on total costs instead of having separate models by algorithm line does not answer the fundamental question of whether a carrier's costs reflect efficient expenditures needed to provide service, *see Comments of the Rural Associations*, 65-67, nor would it deal with the myriad data inaccuracies underpinning the models. *Id.*

[14] *WCB Letter* at 9.

[15] *Id*.

[16] *Id. See also* Comments of Copper Valley Telephone Cooperative, WC Docket No. 10-90, *et al.*, at 8 (filed Jan. 18, 2012); Comments of the Nebraska Rural Independent Companies, WC Docket No. 10-90, *et al.*, at 21-26 (filed Jan. 18, 2012). The Bureau has apparently taken these criticisms to heart. The *WCB Letter* states that in response to the record and peer reviews, the Bureau is considering the use of a number of additional data sets in the regression, including the U.S. Department of Agriculture's "Available Soil Survey Data" (SSURGO). *WCB Letter* at 2. As discussed below, however, adding new data sources at this late stage will likely worsen the myriad legal and administrative procedural problems surrounding the Commission's premature decision to adopt a quantile regression modeling process in the *Order*.

[17] *Id.* at 10. *See also* Comments of Moss Adams, LLP, *et al.*, WC Docket No. 10-90, *et al.*, at 11-12 (filed Jan. 18, 2012).

[18] *WCB Letter* at 13.

[19] *Id.* at 10, 13. *See Comments of Rural Associations*, App. E.

alarmingly sensitive to errors and changes in data.[20] In Reply Comments, for example, the Rural Associations conducted an analysis of the effects of correcting a mapping data error for just a single exchange carrier. This involved correcting a single variable for only one out of 720 study areas and for only one of eleven algorithm lines, and yet this one minor change affected limits applied to 130 other study areas, in most cases by significant amounts.[21]

The Record Demonstrates Material Concerns that Go Beyond Those Identified by the Peer Reviews

The record reflects a number of other technical problems with the models that were apparently not addressed in the peer review process. These include, for example, problems with the accuracy of the data used to "map" study area boundaries, the accuracy of data used to relate census blocks to study areas, conflicts between assumptions used in the models and the Commission's own accounting rules, the lack of statistical significance of most variables, and many other data-related issues.[22] As noted above, it appears the Bureau is seeking to address some of these "data" issues by adding to the record additional sources of information. [23]

While including appropriate additional data and related variables in its models could improve the effectiveness of the models in estimating actual costs of each carrier, the Commission should not proceed willy-nilly by acquiring and employing additional variables until it first establishes that *any* statistical model can serve the policy objective of identifying needed costs of providing service.

Even assuming such policy effectiveness can be established, simply adding lists of data sources to the record, particularly ones as complex as those described in the *WCB Letter*, will not satisfy the Commission's basic obligations under the Administrative Procedure Act. Certainly it is important for the Commission to disclose "information in agency files or consultants' reports which the agency has identified as relevant to the proceeding . . . ." [24] But before adopting any rule or model based on such data, an agency must "disclose *in detail* the thinking that has animated the form of a proposed rule and the data upon which that rule is based."[25] This obligation is especially critical with respect to complex economic models and related datasets. The Commission must not only display them and indicate they "may be considered" in staff

[20] *Reply Comments of Rural Associations*, App. B at 5.

[21] There may be no better indication of how the models as currently proposed violate the basic statutory mandate of predictability than this concern. *See* 47 U.S.C. § 254. It is unreasonable to expect any business manager to plan for investments and operations in the face of caps where a seemingly minor change entirely out of his or her control can result in such significant and wildly varying swings in outcomes. This patent unpredictability is, of course, only compounded by the fact that the models are to be run year-after-year under the approach adopted in the *Order*.

[22] *See, e.g., Comments of Rural Associations* at 65-67.

[23] *WCB Letter* at 2.

[24] *Home Box Office, Inc. v. FCC*, 567 F.2d 9, 55 (D.C. Cir. 1977)

[25] *Id.* at 35 (emphasis added).

analyses, but must actually walk the public through the Commission's analysis of, and preliminary conclusions about, these data.[26] It is entirely unclear when, if ever, the Bureau intends to do so in the process of implementing the modeling concepts adopted in the *Order*. Put another way, the current proposals already have companies, lenders, investors, and consumers grappling with an analysis and understanding of how the proposed caps will apply. Changing the caps now "on the fly" in undisclosed ways, based upon last-minute injections of raw data into the record, cannot salvage the Order's procedural shortcomings.

In summary, the record in this proceeding, augmented via the Commission's peer review process, now overwhelmingly shows that the proposed regression methodology described in Appendix H cannot be implemented as contemplated in the *Order*. Rather than pursue additional attempts to make quick "fixes" to or supplement the models in some way that is not transparent to those affected by the new rules and other interested parties, the Commission should instead consider alternatives that are far better developed, and for which there is much stronger evidentiary support on the record, including specifically the alternative limitation on capital expenditures submitted as part of the RLEC Plan last year. To the extent the Commission continues to consider implementing quantile regression methods at all, it must publish a revised proposal for such caps in light of the current record (including the peer reviews) and then provide reasonable opportunity for meaningful analysis and further comment prior to adoption and implementation.

Respectfully submitted,

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[26] *See, e.g., Environmental Integrity Project v. EPA,* 425 F.3d 992 (D.C. Cir. 2005); *Shell Oil Co. v. EPA,* 950 F.2d 741 (D.C. Cir.1992); *American Fed. of Labor v. Donovan,* 757 F.2d 330, 340 (D.C. Cir. 1985); *Small Refiner Lead Phase-Down Task Force v. EPA,* 705 F.2d 506, 549 (D.C. Cir. 1983).

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